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SEQUENCE LISTING

REMARKS PHARMACEUTICAL, INC.
HIATT, ANDREW C.
HEIN, MICH B.
FITCHEN, JOHN H.

**THE PHARMACEUTICAL
WEEKLY ANDREW C.**

HIAIT, ANDREW C.
HIBBEN, MEGU B.

REIN, MICH B.
BITTENEN JOHN H.

FITCHEN, JOHN H.

NOVEL EPITHELIAL TISSUE IMAGING AGENT

~~130~~ > 068904-0204
<140> UNASSIGNED

<150> 09/005,167
<151> 1888-01-08

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-350- 08/783 480

<150> 08/782,480

<160> 93

<160> 93

<160> 93

1707 Pa

<211> 137
<212> Protein
<213> Human

<220>

<221> misc-feature

<222> Synthetic polypeptide J chain

<400> 1

Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys Cys Lys Cys Ala
 1 5 10 15

Arg Ile Thr Ser Arg Ile Ile Arg Ser Ser Glu Asp Pro Asn Glu Asp
20 25 30

Ile Val Glu Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Asn Arg Glu
35 40 45

Asn	Ile	Ser	Asp	Pro	Thr	Ser	Pro	Leu	Arg	Thr	Arg	Pro	Val	Tyr	His
50						55						60			.

Leu Ser Asp Leu Cys Lys Lys Cys Asp Pro Thr Glu Val Glu Leu Asp
65 70 75 80

Asn Gln Ile Val Thr Ala Thr Gln Ser Asn Ile Cys Asp Glu Asp Ser
85 90 95

Ala Thr Glu Thr Cys Tyr Thr Tyr Asp Arg Asn Lys Cys Tyr Thr Ala
100 105 110

Val Val Pro Leu Val Tyr Gly Gly Glu Thr Lys Met Val Glu Thr Ala
115 120 125

Leu Thr Pro Asp Ala Cys Tyr Pro Asp
130 135

<210> 2
<211> 135
<212> Protein
<213> Mouse

<220>
<221> misc-feature
<222> Synthetic polypeptide J chain

<400> 2
Gln Asp Glu Asn Glu Arg Ile Val Val Asp Asn Lys Cys Lys Cys Ala
1 5 10 15

Arg Ile Thr Ser Arg Ile Ile Pro Ser Ala Glu Asp Pro Ser Gln Asp
20 25 30

Ile Val Glu Arg Asn Val Arg Ile Ile Val Pro Leu Asn Ser Arg Glu
35 40 45

Asn Ile Ser Asp Pro Thr Ser Pro Met Arg Thr Lys Pro Val Tyr His
50 55 60

Leu Ser Asp Leu Cys Lys Cys Asp Thr Thr Glu Val Glu Leu Glu
65 70 75 80

Asp Gln Val Val Thr Ala Ser Gln Ser Asn Ile Cys Asp Ser Asp Ala
85 90 95

Glu Thr Cys Tyr Thr Tyr Asp Arg Asn Lys Cys Tyr Thr Asn Arg Val
100 105 110

Lys Leu Ser Tyr Arg Gly Gln Thr Lys Met Val Glu Thr Ala Leu Thr
115 120 125

Pro Asp Ser Cys Tyr Pro Asp
130 135

<210> 3
<211> 137
<212> Protein
<213> Rabbit

<220>
<221> misc-feature
<222> Synthetic polypeptide J chain

<400> 3

Asp	Asp	Glu	Ala	Thr	Ile	Leu	Ala	Asp	Asn	Lys	Cys	Met	Cys	Thr	Arg
1					5					10				15	
Val	Thr	Ser	Arg	Ile	Ile	Pro	Ser	Thr	Glu	Asp	Pro	Asn	Glu	Asp	Ile
				20				25					30		
Val	Glu	Arg	Asn	Ile	Arg	Ile	Val	Val	Pro	Leu	Asn	Asn	Arg	Glu	Asn
				35				40					45		
Ile	Ser	Asp	Pro	Thr	Ser	Pro	Leu	Arg	Arg	Asn	Pro	Val	Tyr	His	Leu
				50			55					60			
Ser	Asp	Val	Cys	Lys	Lys	Cys	Asp	Pro	Val	Glu	Val	Glu	Leu	Glu	Asp
				65..			70			75			80		
Gln	Val	Val	Thr	Ala	Thr	Gln	Ser	Asn	Ile	Cys	Asn	Glu	Asp	Asp	Gly
					85				90				95		
Val	Pro	Glu	Thr	Cys	Tyr	Met	Tyr	Asp	Arg	Asn	Lys	Cys	Tyr	Thr	Thr
					100				105				110		
Met	Val	Pro	Leu	Arg	Tyr	His	Gly	Glu	Thr	Lys	Met	Val	Gln	Ala	Ala
					115				120				125		
Leu	Thr	Pro	Asp	Ser	Cys	Tyr	Pro	Asp							
					130			135							

<210> 4
<211> 136
<212> Protein
<213> Bovine

<220>
<221> misc-feature
<222> Synthetic polypeptide J chain

<400> 4

Glu Asp Glu Ser Thr Val Leu Val Asp Asn Lys Cys Gln Cys Val Arg
1 5 10 15

Ile Thr Ser Arg Ile Ile Arg Asp Pro Asp Asn Pro Ser Glu Asp Ile
20 25 30

Val Glu Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Thr Arg Glu Asn
35 40 45

Ile Ser Asp Pro Thr Ser Pro Leu Arg Thr Glu Pro Lys Tyr Asn Leu
50 55 60

Ala Asn Leu Cys Lys Lys Cys Asp Pro Thr Glu Ile Glu Leu Asp Asn
65 70 75 80

Gln Val Phe Thr Ala Ser Gln Ser Asn Ile Cys Pro Asp Asp Asp Tyr
85 90 95

Ser Glu Thr Cys Tyr Thr Tyr Asp Arg Asn Lys Cys Tyr Thr Thr Leu
100 105 110

Val Pro Ile Thr His Arg Gly Val Thr Arg Met Val Lys Ala Thr Leu
115 120 125

Thr Pro Asp Ser Cys Tyr Pro Asp
130 135

<210> 5
<211> 119
<212> Protein
<213> Bull frog

<220>
<221> misc-feature
<222> Synthetic polypeptide J chain

<400> 5

Glu Gln Glu Tyr Ile Leu Ala Asn Asn Lys Cys Lys Cys Val Lys Ile
1 5 10 15

Ser Ser Arg Phe Val Pro Ser Thr Glu Arg Pro Gly Glu Ile Leu
20 25 30

Glu Arg Asn Ile Gln Ile Thr Ile Pro Thr Ser Ser Arg Met Xaa Ile
35 40 45

Ser Asp Pro Tyr Ser Pro Leu Arg Thr Gln Pro Val Tyr Asn Leu Trp
50 55 60

Asp Ile Cys Gln Lys Cys Asp Pro Val Gln Leu Glu Ile Gly Gly Ile
65 70 75 80

Pro Val Leu Ala Ser Gln Pro Xaa Xaa Ser Xaa Pro Asp Asp Glu Cys
85 90 95

Tyr Thr Thr Glu Val Asn Phe Lys Lys Val Pro Leu Thr Pro Asp
100 105 110

Ser Cys Tyr Glu Tyr Ser Glu
115

<210> 6
<211> 129
<212> Protein
<213> Earthworm

<220>
<221> misc-feature
<222> Synthetic polypeptide J chain

<400> 6

Asn Lys Cys Met Cys Thr Arg Val Thr Ala Arg Ile Arg Gly Thr Arg
1 5 10 15

Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Tyr Ile Arg Ile Asn Val
20 25 30

Pro Leu Lys Asn Arg Gly Asn Ile Ser Asp Pro Thr Ser Pro Leu Arg
35 40 45

Asn Gln Pro Val Tyr His Leu Ser Pro Ser Cys Lys Lys Cys Asp Pro
50 55 60

Tyr Glu Asp Gly Val Val Thr Ala Thr Glu Thr Asn Ile Cys Tyr Pro
65 70 75 80

Asp Gln Gly Val Pro Gln Ser Cys Arg Asp Tyr Cys Pro Glu Leu Asp
85 90 95

Arg Asn Lys Cys Tyr Thr Val Leu Val Pro Pro Gly Tyr Thr Gly Glu
100 105 110

Thr Lys Met Val Gln Asn Ala Leu Thr Pro Asp Ala Cys Tyr Pro Asp
115 120 125

<210> 7

<211> 421

<212> DNA

<213> Artificial Sequence

<220>

<221> CDS

<222> (1)..(414)

<220>

<221> misc-feature

<222> Description of Artificial Sequence: Synthetic polypeptide including target of "full length" TM cDNA

<400> 7

GAT CAG GAA GAT GAA CGT ATT GTT CTG GTT GAC AAC AAG TGC AAG TGT 48
Asp Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys Cys Lys Cys
1 5 10 15

GCT CGT ATT ACT TCT AGA ATC ATC CGT AGC TCA GAG GAC CCA AAT GAA 96
Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser Ser Glu Asp Pro Asn Glu
20 25 30

GAT ATA GTC GAA CGT AAC ATC CGT ATC ATC GTC CCA CTG AAT AAC CGG 144
Asp Ile Val Glu Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Asn Arg
35 40 45

GAG AAT ATC TCA GAT CCT ACA AGT CCG TTG CGC ACA CGC TTC GTA TAC 192
Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu Arg Thr Arg Phe Val Tyr
50 55 60

CAC CTG TCA GAT CTG TGT AAG AAG TGT GAT CCA ACA GAG GTA GAG CTG 240
His Leu Ser Asp Leu Cys Lys Lys Cys Asp Pro Thr Glu Val Glu Leu
65 70 75 80

<210> 9
 <211> 140
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Nucleotide sequence of C2 fragment

<400> 9
 CTAGAACAT CCGTAGCTCA GAGGACCCAA ATGAAGATAT AGTCGAACGT AACATCCGTA 60
 TCATCGTCCC ACTGAATAAC CGGGAGAATA TCTCAGATCC TACAAGTCCG TTGCGCACAC 120
 GCTTCGTATA CCACCTGTCA 140

<210> 10
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Nucleotide sequence of D1.1 fragment

<400> 10
 GATCAGAAGT GCAAGTGTGC TCGTATTACT T 31

<210> 11
 <211> 44
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> CDS
 <222> (1)...(42)

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Nucleotide sequence of L3D fragment

<400> 11
 GAT CTG TGT AAG AAG GAT GAA GAT TCC GCT ACA GAA ACC TGC 42
 Asp Leu Cys Lys Lys Asp Glu Asp Ser Ala Thr Glu Thr Cys
 75 80 85

TG 44

<210> 12
 <211> 109
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Nucleotide sequence of T4 fragment

<400> 12		
GCACCTACGA TAGGAACAAA TGCTACACGG CCGTGGTTCC GCTCGTGTAT GGTGGAGAGA		60
CAAAATGGT GGAAACTGCC CTTACGCCCG ATGCATGCTA CCCTGACTG		109

<210> 13
 <211> 286
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> CDS
 <222> (1)...(282)

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Nucleotide sequence of Core TM cDNA using L3

<400> 13			
GAC AAC AAG TGC AAG TGT GCT CGT ATT ACT TCT AGA ATC ATC CGT AGC		48	
Asp Asn Lys Cys Lys Cys Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser			
15	20	25	30
TCA GAG GAC CCA AAT GAA GAT ATA GTC GAA CGT AAC ATC CGT ATC ATC			96
Ser Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Ile			
35	40		45
GTC CCA CTG AAT AAC CGG GAG AAT ATC TCA GAT CCT ACA AGT CCG TTG			144
Val Pro Leu Asn Asn Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu			
50	55		60
CGC ACA CGC TTC GTA TAC CAC CTG TCA GAT CTG TGT AAG AAG TGT GAT			
Arg Thr Arg Phe Val Tyr His Leu Ser Asp Leu Cys Lys Lys Cys Asp			
65	70		75
CCA ACA GAG GTA GAG CTG GAC AAT CAG ATA GTC ACT GCG ACT CAA AGC			192
Pro Thr Glu Val Glu Leu Asp Asn Gln Ile Val Thr Ala Thr Gln Ser			
80	85		90

AAC ATT TGC GAT GAG GAC AGC GCT ACA GAA ACC TGC TAC TGA
Asn Ile Cys Asp Glu Asp Ser Ala Thr Glu Thr Cys Tyr *
95 100 105

282

ATTC

286

<210> 14
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<221> CDS
<222> (1)..(105)

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Nucleotide sequence of L3 fragment

<400> 14
GAT CTG TGT AAG AAG TGT GAT CCA ACA GAG GTA GAG CTG GAC AAT CAG 48
Asp Leu Cys Lys Lys Cys Asp Pro Thr Glu Val Glu Leu Asp Asn Gln
95 100 105 110

ATA GTC ACT GCG ACT CAA AGC AAC ATT TGC GAT GAG GAC AGC GCT ACA 96
Ile Val Thr Ala Thr Gln Ser Asn Ile Cys Asp Glu Asp Ser Ala Thr
115 120 125

CTT TGG ACG 105
Leu Trp Thr

<210> 15
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Nucleotide sequence of D1 fragment

<400> 15
GATCAGGAAG ATGAACGTAT TGTTCTGGTT GACAACAAGT GCAAAGTGTGC TCGTATTACT

60

T

61

<210> 16
 <211> 61
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Nucleotide sequence of Tps2

<400> 16
 GCGATGACGA CGATAAGGCC CAAACGGAGA CCTGTACTGT TGCGCCTCGT GAACGGCAA 60
 ACTGCGGATT CCCCGGAAGTA ACACCCCTCTC AGTGCCTCAA TAAAGGCTGC TGTTTGATG 120
 ACACGGTACG GGGCGTTCCG TGGTGCTCT ACCCCAATAC AATTGACGTT CCGCCTGAAG 180
 AAGAGTGCAG GCCGTAAG 198

<210> 17
 <211> 138
 <212> Protein
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Synthetic polypeptide of "full length" TM cDNA

<400> 17
 Asp Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys Cys Lys Cys
 1 5 10 15

Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser Ser Glu Asp Pro Asn Glu
 20 25 30

Asp Ile Val Glu Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Asn Arg
 35 40 45

Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu Arg Thr Arg Phe Val Tyr
 50 55 60

His Leu Ser Asp Leu Cys Lys Lys Cys Asp Pro Thr Glu Val Glu Leu
 65 70 75 80

Asp Asn Gln Ile Val Thr Ala Thr Gln Ser Asn Ile Cys Asp Glu Asp
 85 90 95

Ser Ala Thr Glu Thr Cys Ser Thr Tyr Asp Arg Asn Lys Cys Tyr Thr
 100 105 110

Ala Val Val Pro Leu Val Tyr Gly Gly Glu Thr Lys Met Val Glu Thr
 115 120 125

Ala Leu Thr Pro Asp Ala Cys Tyr Pro Asp
130 135

<210> 18
<211> 71
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Synthetic polypeptide of Core TM
cDNA

<400> 18
Asp Gln Lys Cys Lys Cys Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser
1 5 10 15

Ser Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Ile
20 25 30

Val Pro Leu Asn Asn Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu
35 40 45

Arg Thr Arg Phe Val Tyr His Leu Ser Asp Leu Cys Lys Lys Asp Glu
50 55 60

Asp Ser Ala Thr Glu Thr Cys
65 70

<210> 19
<211> 49
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Synthetic polypeptide of C2
fragment

<400> 19
Ser Arg Ile Ile Arg Ser Ser Glu Asp Pro Asn Glu Asp Ile Val Glu
1 5 10 15

Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Asn Arg Glu Asn Ile Ser
20 25 30

Asp Pro Thr Ser Pro Leu Arg Thr Arg Phe Val Tyr His Leu Ser Asp
35 40 45

Leu

<210> 20
<211> 12
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Synthetic polypeptide of D 1.1 fragment

<400> 20
Asp Gln Lys Cys Lys Cys Ala Arg Ile Thr Ser Arg
1 5 10

<210> 21
<211> 14
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Synthetic polypeptide of L3D fragment

<400> 21
Asp Leu Cys Lys Lys Asp Glu Asp Ser Ala Thr Glu Thr Cys
1 5 10

<210> 22
<211> 36
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Synthetic polypeptide of T4 fragment

<400> 22
Ser Thr Tyr Asp Arg Asn Lys Cys Tyr Thr Ala Val Val Pro Leu Val
1 5 10 15

Tyr Gly Gly Glu Thr Lys Met Val Glu Thr Ala Leu Thr Pro Asp Ala
20 25 30

Cys Tyr Pro Asp
35

<210> 23
<211> 93
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Synthetic polypeptide of Core TM
CDNA using L3

<400> 23
Asp Asn Lys Cys Lys Cys Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser
1 5 10 15

Ser Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Ile
20 25 30

Val Pro Leu Asn Asn Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu
35 40 45

Arg Thr Arg Phe Val Tyr His Leu Ser Asp Leu Cys Lys Lys Cys Asp
50 55 60

Pro Thr Glu Val Glu Leu Asp Asn Gln Ile Val Thr Ala Thr Gln Ser
65 70 75 80

Asn Ile Cys Asp Glu Asp Ser Ala Thr Glu Thr Cys Tyr
85 90

<210> 24
<211> 35
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Synthetic polypeptide of L3
fragment

<400> 24
Asp Leu Cys Lys Lys Cys Asp Pro Thr Glu Val Glu Leu Asp Asn Gln
1 5 10 15

Ile Val Thr Ala Thr Gln Ser Asn Ile Cys Asp Glu Asp Ser Ala Thr
20 25 30

Leu Trp Thr
35

<210> 25
<211> 22
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Synthetic polypeptide of D1 fragment

<400> 25
Asp Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys Cys Lys Cys
1 5 10 15

Ala Arg Ile Thr Ser Arg
20

<210> 26
<211> 66
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Synthetic polypeptide of TpS2

<400> 26
Cys Ser Asp Asp Asp Asp Lys Ala Gln Thr Glu Thr Cys Thr Val Ala
1 5 10 15

Pro Arg Glu Arg Gln Asn Cys Gly Phe Pro Gly Val Thr Pro Ser Gln
20 25 30

Cys Ala Asn Lys Gly Cys Cys Phe Asp Asp Thr Val Arg Gly Val Pro
35 40 45

Trp Cys Phe Tyr Pro Asn Thr Ile Asp Val Pro Pro Glu Glu Cys
50 55 60

<210> 27
<211> 421
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Complementary nucleotide sequence of "full length" TM cDNA

<400> 27
CTAGTCCTTC TACTTGCATA ACAAGACCAA CTGTTGTTCA CGTTCACACG AGCATAATGA 60

AGATCTTAGT AGGCATCGAG TCTCCTGGGT TTACTTCTAT ATCAGCTTGC ATTGTAGGCA 120
TAGTAGCAGG GTGACTTATT GGCCCTCTTA TAGAGTCTAG GATGTTCAGG CAACGCGTGT 180
GCGAAGCATA TGGTGGACAG TCTAGACACA TTCTTCACAC TAGGTTGTCT CCATCTCGAC 240
CTGTTAGTCT ATCAGTGACG CTGAGTTTCG TTGTAAACGC TACTCCTGTC GCGATGTCTT 300
TGGACGTCGT GGATGCTATC CTTGTTTACG ATGTGCCGGC ACCAAGGCAGA GCACATACCA 360
CCTCTCTGTT TTTACCACCT TTGACGGGAA TGCGGGCTAC GTACGATAGG CCTGACTTAA 420
G 421

<210> 28
<211> 219
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Complementary nucleotide sequence of Core TM cDNA

<400> 28
CTAGTCTTCA CGTTCACACG AGCATAATGA AGATCTTAGT AGGCATCGAG TCTCCTGGGT 60
TTACTTCTAT ATCAGCTTGC ATTGTAGGCA TAGTAGCAGG GTGACTTATT GGCCCTCTTA 120
TAGAGTCTAG GATGTTCAGG CAACGCGTGT GCGAAGCATA TGGTGGACAG TCTAGACACA 180
TTCTTCCTAC TCCTGTCGCG ATGTCTTTGG ACGACTTAA 219

<210> 29
<211> 140
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Complementary nucleotide sequence of C2 fragment

<400> 29
TTAGTAGGCA TCGAGTCTCC TGGGTTTACT TCTATATCAG CTTGCATTGT AGGCATAGTA 60
GCAGGGTGAC TTATTGGCCC TCTTATAGAG TCTAGGATGT TCAGGCAACG CGTGTGCGAA 120
GCATATGGTG GACAGTCTAG 140

<210> 30
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Complementary nucleotide sequence of D 1.1 fragment

<400> 30
TCTTCACGTT CACACGAGCA TAATGAAGAT C

31

<210> 31
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Complementary nucleotide sequence of L3D fragment

<400> 31
ACACATTCTT CCTACTTCTC AGGCGATGTC TTTGGACGAC TTAA

44

<210> 32
<211> 117
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Complementary nucleotide sequence of T4 fragment

<400> 32
ACGTCGTGGA TGCTATCCTT GTTTACGATG TGCCGGCACC AAGGCGAGCA CATACCACCT

60

CTCTGTTTT ACCACCTTG ACGGAAATGC GGGCTACGTA CGATGGGACT GACTTAA

117

<210> 33
 <211> 282
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Complementary nucleotide sequence of Core TM cDNA using L3

<400> 33		
CTGTTGTTCA CGTTCACACG AGCATAATGA AGATCTTAGT AGGCATCGAG TCTCCTGGGT		60
TTACTTCTAT ATCAGCTTGC ATTGTAGGCA TAGTAGCAGG GTGACTTATT GCCCCTCTTA		120
TAGAGTCTAG GATGTCAGG CAACCGTGT GCGAAGCATA TGGTGGACAG TCTAGACACA		180
TTCTTCACAC TAGGTTGTCT CCATCTCGAC CTGTTAGTCT ATCAGTGACG CTGAGTTTCG		240
TTGTAAACGC TACTCCTGTC GCGATGTCTT TGGACGATGA CT		282

<210> 34
 <211> 105
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Complementary nucleotide sequence of L3 fragment

<400> 34		
GATCTGTGTA AGAAAGTGTGA TCCAACAGAG GTAGAGCTGG ACAATCAGAT AGTCACTGCG		60
ACTCAAAGCA ACATTTGCGA TGAGGACAGC GCTACACTTT GGACG		105

<210> 35
 <211> 65
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Complementary nucleotide sequence of D1 fragment

<400> 35		
CTAGTCCTTC TACTTGCATA ACAAGACCAA CTGTTGTTCA CGTTCACACG AGCATAATGA		60
AGATC		65

<210> 36
 <211> 206
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Complementary nucleotide sequence of TpS2

<400> 36		
ACTTCGCTAC TGCTGCTATT CCGGGTTTGC CTCTGGACAT GACAACGCGG AGCACTTGCC		60
GTTCAGACGC CTAAGGCCT TCATTGTGGG AGAGTCACGC GATTATTCC GACGACAAAA		120
CTACTGTGCC ATGCCCGCA AGGCACCACG AAGATGGGT TATGTTAACT GCAAGGCGGA		180
CTTCTTCTCA CGCTCGGCAT TCTTAA		206

<210> 37
 <211> 13
 <212> Protein
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Domain 1, 13 amino peptide with substantial β -sheet character

<400> 37		
Asp Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys		
1	5	10

<210> 38
 <211> 7
 <212> Protein
 <213> Tobacco etch virus

<220>
 <221> misc-feature
 <222> Peptide recognized by the tobacco etch virus protease Nia

<400> 38		
Glu Asn Leu Tyr Phe Gln Ser		
1	5	

<210> 39
<211> 11
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Synthetic polypeptide residues from pro-cathepsin E

<400> 39
Lys Ala His Lys Val Asp Met Val Gln Tyr Thr
1 5 10

<210> 40
<211> 4
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Linker from procathepsin

<400> 40
Val Gln Tyr Thr
1

<210> 41
<211> 6
<212> Protein
<213> Human

<220>
<221> misc-feature
<222> Linker from polyimmunoglobulin receptor

<400> 41
Glu Lys Ala Val Ala Asp
1 5

<210> 42
 <211> 131
 <212> DN_a
 <213> Artificial Sequence

<220> CDS
 <221> 1..78
 <222> Description of Artificial Sequence: Nucleotide sequence of secretion signal from pMelBac

<400> 42

ATG AAA TTC TTA GTC AAC GTT GCC CTT TTT ATG GTC GTA TAC ATT TCT	48	
Met Lys Phe Leu Val Asn Val Ala Leu Phe Met Val Val Tyr Ile Ser		
40	45	50

TAC ATC TAT GCG GAT CCG AGC TCG AGT GCT CTAGATCTGC AGCTGGTACC

Tyr Ile Tyr Ala Asp Pro Ser Ser Ala	98
55	60

ATGGAATTCTG AAGCTTGGAG TCGACTCTGC TGA

	131
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<210> 43
 <211> 26
 <212> Protein
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Synthetic polypeptide sequence of secretion signal from pMelBac

<400> 43

Met Lys Phe Leu Val Asn Val Ala Leu Phe Met Val Val Tyr Ile Ser			
1	5	10	15

Tyr Ile Tyr Ala Asp Pro Ser Ser Ala

20	25
----	----

<210> 44
 <211> 4
 <212> Protein
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Endomembrane retention signal

<400> 44

Lys Asp Glu Leu	
1	

<210> 45
 <211> 16
 <212> Protein
 <213> Human

<220>
 <221> misc-feature
 <222> Residues 585-600 of polyimmunoglobulin receptor

<400> 45
 Ala Ile Gln Asp Pro Arg Leu Phe Ala Glu Glu Lys Ala Val Ala Asp
 1 5 10 15

<210> 46
 <211> 61
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 1

<400> 46
 GATCAGGAAG ATGAACGTAT TGTTCTGGTT GACAACAAAGT GCAAGTGTGC TCGTATTACT 60
 T 61

<210> 47
 <211> 61
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 2

<400> 47
 CTAGAAGTAA TACGAGCACA CTTGCACTTG TTGTCAACCA GAACAATACT TTCATCTTCC 60
 T 61

<210> 48
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 1.1

<400> 48
 GATCAGAAGT GCAAGTGTGC TCGTATTACT T 31

<210> 49
<211> 6
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 1.2

<400> 49
CTAGAAGTAA TACGAGCACA CTTGCACTTC T

31

<210> 50
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 1.2ser

<400> 50
GATCAGGAAG ATGAACGTAT TGTTCTGGTT GACAACAAAGT GCAAGTCCGC TCGTATTACT 60
T

61

<210> 51
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 2.2ser

<400> 51
CTAGAAGTAA TACGAGCGGA CTTGCACTTG TTGTCAACCA GAACAATAACG TTCATCTTCC 60
T

61

<210> 52
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 1.2val

<400> 52
GATCAGGAAG ATGAACGTAT TGTTCTGGTT GACAACAAAGT GCAAGGTTGC TCGTATTACT 60

T 61

<210> 53
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
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<222> Description of Artificial Sequence: Oligonucleotide 2.2val

<400> 53
CTAGAAGTAA TACGAGAAC CTTGCACTTG TTGTCAACCA GAACAATACG TTCATCTTCC 60

T 61

<210> 54
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
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<222> Description of Artificial Sequence: Oligonucleotide 3

<400> 54
CTAGAATCAT CCGTAGCTCA GAGGACCAA ATGAAGATAT AGTCGAA 47

<210> 55
<211> 58
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 4

<400> 55
GATACGGATG TTACGTTCGA CTATATCTTC ATTTGGGTCC TCTGAGCTAC GGATGATT 58

<210> 56
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 5

<400> 56
CGTAACATCC GTATCATCGT CCCACTGAAT AACCGGGAGA ATATCTCAG 49

<210> 57
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 5.1dg

<400> 57
CGTAACATCC GTATCATCGT CCCACTGAAT AACCGGGAGC ACATCTCAG 49

<210> 58
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 6

<400> 58
ACGGACTTGT AGGATCTGAG ATATTCTCCC GGTTATTCAG TGGGACGAT 49

<210> 59
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 6.1dg

<400> 59
ACGGACTTGT AGGATCTGAG ATGTGCTCCC GGTTATTCAG TGGGACGAT 49

<210> 60
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 7

<400> 60
ATCCTACAAG TCCGTTGCAG ACACGCTTCG TATACCACCT GTCA

44

<210> 61
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 8

<400> 61
GATCTGACAG GTGGTATAACG AAGCGTGTGC GCA

33

<210> 62
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 9

<400> 62
GATCTGTGTA AGAAGTGTGA TCCAACAGAG GTAGAGCTGG ACAATCAGAT AGTCACTGCA

60

<210> 63
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 9L3Δ

<400> 63
GATCTGTGTA AGAAGGATGA GGACAGCGCT ACAGAACCT GCTG

44

<210> 64
 <211> 44
 <212> DNA
 <213> Artificial Sequence

<220>
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 <222> Description of Artificial Sequence: Oligonucleotide 10L3Δ

<400> 64
 AATTCA~~G~~CAG GTTTCTGTAG CGCTGTCCTC ATCCTTCTTA CACA 44

<210> 65
 <211> 62
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 9L3ΔKDEL

<400> 65
 GATCTGTGTA AGAAGGATGA GGACAGCGCT ACAGAACCT GCTACGAGAA GGATGAGCTG 60

TG 62

<210> 66
 <211> 62
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 10L3ΔKDEL

<400> 66
 AATTCA~~C~~AGC TCATCCTTCG CGTCGCAGGT TTCTGTAGCG CTGTCCTCAT CCTTCTTACA 60

CA 62

<210> 67
 <211> 59
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 9.2Δ3

<400> 67
 GATCTGTGTA AGAAGTCTGA TATCGATGAA GATTCCGCTA CAGAACCTG CAGCACATG 59

<210> 68
<211> 59
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 10.2Δ3

<400> 68
AATTCATGTG CTGCAGGTTT CTGTAGCGGA ATCTTCATCG ATATCAGACT TCTTACACA 59

<210> 69
<211> 64
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 9.3Δ3/ser68

<400> 69
GATCTGTCTA AGAAGTCTGA TATCGATGAA GATTACAGAT TCTTCAGACT ATAGCTACTT 60
CTAA 64

<210> 70
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 10.3Δ3/ser68

<400> 70
AATCTTCATC GATATCAGAC TTCTTAGACA 30

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<210> 71
<211> 64
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 9.3Δ3/val68

<400> 71
GATCTGGTTA AGAAAGTCTGA TATCGATGAA GATTACCAAT TCTTCAGACT ATAGCTACTT      60
CTAA                                         64

<210> 72
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 10.3Δ3/val68

<400> 72
AATCTTCATC GATATCAGAC TTCTTAACCA                                         30

<210> 73
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 10

<400> 73
ATTGTCCAGC TCTACCTCTG TTGGATCACA CTTCTTACAC A                                         41

<210> 74
<211> 46
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 11

<400> 74
ACTCAAAGCA ACATTTGCGA TGAGGGACAGC GCTACAGAAA CCTGCA                                         46

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<210> 75
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 12

<400> 75
GGTTTCTGTA GCGCTCTGCT CATCGCAAAT GTTGCTTTGA GTCGCAGTGA CTATCTG 57

<210> 76
<211> 59
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 13

<400> 76
GCACCTACGA TAGGAACAAA TGCTACACGG CCGTGGTTCC GCTCGTGTAT GGTGGAGAG 59

<210> 77
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 14

<400> 77
GAGCGGAACC ACGGCCGTGT AGCATTGTT CCTATCGTAG GTGCTGCA 48

<210> 78
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 15

<400> 78
ACAAAAATGG TGGAAACTGC CCTTACGCC GATGCATGCT ATCCGGACTG 50

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<210> 79
<211> 69
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 16

<400> 79
AATTCAGTCC GGATAGCATG CATCGGGCGT AAGGGCAGTT TCCACCATTT TTGTCTCTCC      60
ACCATACACAC                                69

<210> 80
<211> 62
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 15KDEL

<400> 80
ACAAAAATGG TGGAAACTGC CCTTACGCC GATGCATGCT ATCCGGACAA GGATGAATTG      60
TG                                62

<210> 81
<211> 81
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 16KDEL

<400> 81
AATTCACAAT TCATCTTGT CCGGATAGCA TGCATCGGGC GTAAGGGCAG TTTCCACCAT      60
TTTTGTCTCT CCACCATACA C                                81

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<210> 82
<211> 88
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide P1

<400> 82
GATCAGGTCG CTGCCATCCA AGACCCGAGG CTGTCGCCG AAGAGAAGGC CGTCGCTGAC      60
TCCAAGTGCA AGTGTGCTCG TATTACTT                                         88

<210> 83
<211> 88
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide P2

<400> 83
CTAGAAAGTAA TACGAGCACA CTTGCACTTG GAGTCAGCGA CGGCCTTCTC TTCGGCGAAC      60
AGCCTCGGGT CTTGGATGGC AGCGACCT                                         88

<210> 84
<211> 10
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Nuclear targeting sequence 1

<400> 84
    Cys Ala Ala Pro Lys Lys Lys Arg Lys Val
      1             5               10

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<210> 85
<211> 22
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Nuclear targeting sequence 2

<400> 85
Cys Ala Ala Lys Arg Pro Pro Ala Ala Ile Lys Lys Ala Ala Ala Gly
1 5 10 15

Gln Ala Lys Lys Lys Lys
20

<210> 86
<211> 4
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: HDEL linker sequence for intracellular targeting

<400> 86
His Asp Glu Leu
1

<210> 87
<211> 77
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide Tp1

<400> 87
GCGATGACGA CGATAAGGCC CAAACGGAGA CCTGTACTGT TGCGCCTCGT GAACGGCAA 60
ACTGCGGATT CCCGGAA 77

<210>	88	
<211>	66	
<212>	DNA	
<213>	Artificial Sequence	
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<221>	misc-feature	
<222>	Description of Artificial Sequence: Oligonucleotide Tp2	
 <400>	88	
GTTTGCCGT TCACGAGGCG CAACAGTACA GGTCTCCGTT TGGGCCTTAT CGTCGTCATC		60
GCTTCA		66
 <210>	89	
<211>	72	
<212>	DNA	
<213>	Artificial Sequence	
 <220>		
<221>	misc-feature	
<222>	Description of Artificial Sequence: Oligonucleotide Tp3	
 <400>	89	
GTAACACCCCT CTCAGTGCAG TAATAAAGGC TGCTGTTTG ATGACACGGT ACGGGGCGTT		60
CCGTGGTGCT TC		72
 <210>	90	
<211>	72	
<212>	DNA	
<213>	Artificial Sequence	
 <220>		
<221>	misc-feature	
<222>	Description of Artificial Sequence: Oligonucleotide Tp4	
 <400>	90	
GCCCGTACC GTGTCATCAA AACAGCAGCC TTTATTAGCG CACTGAGAGG GTGTTACTTC		60
CGGGAATCCG CA		72

<210> 91
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide Tp5

<400> 91
TACCCCAATA CAATTGACGT TCCGCCTGAA GAAGAGTGCG AGCCGTAAG

49

<210> 92
<211> 68
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide Tp6

<400> 92
AATTCTTACG GCTCGCACTC TTCTTCAGGC GGCAAGTCAT TTGTATTGGG GTAGAAGCAC

60

CACGGAAC 68

<210> 93
<211> 13
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Synthetic peptide linker

<400> 93
Val Ala Val Gln Ser Ala Gly Thr Pro Ala Ser Gly Ser
1 5 10